

Cahlen Brancheau #154
Hw1

25
30

1.

~~a.~~ $B \approx \frac{40}{20} = 1 + \frac{N}{100} \Rightarrow N = 100$
 B is true. A

$\therefore A$ is 100% faster than B .

2

$$\frac{1}{(1-F) + \frac{F}{5}} = \frac{1}{(1-.35) + \frac{.35}{15}} = \frac{1}{.673333} = 1.48515 \checkmark$$

3

a

$$\frac{1}{(1-.8) + \frac{.8}{20}} = 4.16667$$

b

$$\frac{1}{(1-.2) + \frac{.2}{80}} = 1.24611$$

c

$$\frac{1}{(1-.9) + \frac{.9}{10}} = 5.26316 \checkmark$$

d

$$\frac{1}{(1-.1) + \frac{.1}{90}} = 1.10974$$

4

a

$$\frac{1}{(1-.8) + \frac{.8}{1.2}} = 1.15385$$

✓ Best

b

$$\frac{1}{(1-.2) + \frac{.2}{1.8}} =$$

~~1.09756~~

~~3.07692~~

$$1.09756$$

c

$$\frac{1}{(1-.4) + \frac{.4}{1.1}} = 1.08911$$

d

$$\frac{1}{(1-.1) + \frac{.1}{1.9}} = 1.04972$$

✓

5

a

$$\frac{1}{(1-.6) + \frac{.6}{1.0}} = 2.17391$$

b

$$\frac{1}{(1-.75) + \frac{.75}{1.0}} = 3.07692$$

c

$$\frac{1}{(1-F) + \frac{F}{1.0}} = 2.75$$

$$F = .707070707071 = \sim 70.7\%$$

✓

6

$$a \quad \frac{1}{(1-.6) + \frac{.6}{1.3}} = \boxed{1.16071} \quad \checkmark$$

b

$$1) \quad \frac{1}{(1-.7) + \frac{.7}{1.3}} = \underline{1.19266}$$

$$\frac{50,000}{1.19266} = 41,923.1 \quad \checkmark$$

$$2) \quad \frac{1}{(1-.5) + \frac{.5}{2}} = 1.33333$$

$$\frac{53,000}{1.33333} = 39,750.1 \quad \checkmark$$

option 2 ✓